The effect of substantial holdings on capital structure and dividend policy

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Abstract

This paper analyses size and dispersion in a firm’s substantial holders and its impact on capital structure and dividend policy. In an agency relationship, substantial holders have the potential to influence decision-making by management. Prior evidence has demonstrated an association between the presence of a substantial holder and corporate policies of management. Recently, the size and dispersion of a firm’s substantial holders has been shown to affect firm value (Konijn, Kraeussl and Lucas, 2011). This paper extends the literature on substantial holders by examining whether this impact on a firm’s monitoring environment also affects capital structure and dividend policy of management.

Key words: Leverage; Dividend policy; Substantial holders
The objective of this thesis is to investigate the role of substantial holders in Australian firms. A substantial holder is defined in the Corporations Act (2001) as, ‘a person (whose) total votes attached to voting shares in (a corporate) body...is five % percent or more of the total number of votes attached to voting shares in the body.’ This is in contrast to ownership of greater than five percent of a firm’s shares. Substantial holders are required to provide timely notice of their holdings within 2 business days. It is maintained by the Australian Securities and Investment Commission that market participants must be informed of substantial holders in a timely manner as they have the capacity to ‘control the destinies of the company.’

The aim of this thesis is to provide a comprehensive description of substantial holders in Australian firms. This thesis investigates the informativeness of continuous disclosure by substantial holders, and the effect of multiple dimensions of a firm’s substantial holders on corporate policies of management. In Australia, corporate governance and the possible existence of extensive private benefits from control has been bought into question (Dignam and Galanis, 2004). This thesis adds to our understanding of the nature of control that is exercised by substantial holders in Australian firms.

The thesis will take the following structure:

Chapter 1: Introduction
Chapter 2: Substantial Holdings in Australian Firms
Chapter 3: The Announcement Effects of Substantial Holder Notices
Chapter 4: The Effect of Substantial Holdings on Capital Structure and Dividend Policy
Chapter 5: Conclusion

This paper reflects to a large part Chapter 4 of my thesis.

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1 Sec. 671 of the Corporations Act 2001.
2 See Eggleston Committee’s Second Interim Report, 1969, para.4.
1. INTRODUCTION

In this paper, the effect of substantial holders on the level of debt and dividends paid by management in Australian firms is examined. Two aspects of substantial holders are analysed including the aggregate votes they hold and dispersion in their holdings. The previous literature has answered this question using the presence of a substantial holder (Cronqvist and Fahlenbrach, 2009). However size and dispersion in a firm’s substantial holders has been shown to have an economically meaningful influence on the monitoring environment of the firm (Konijn, Kraeussl and Lucas, 2011).

In Australian firms, substantial holders are subject to a strict reporting regime that is motivated by the belief of regulators that substantial holders have the potential to control the destiny of the firm. In examining the role of all substantial holders in the firm, this paper contributes to the literature in further understanding how substantial holders affect the level of debt and dividends paid by management. An Australian sample of substantial holdings from 2001 to 2009 is examined in this paper. In modelling the effect of substantial holders on the level or debt and dividends, empirical methods are employed in this paper that is robust to a potentially endogenous relationship between control by substantial holders and the level debt and dividends.

I find that the percentage of voting rights held by non-management substantial holders does not have a significant effect on the level of debt chosen by management. Also, the dispersion in votes held by all substantial holders has no effect. In contrast to debt, the percentage of voting rights held by non-management substantial holders has a negative effect on the level of dividends paid by management. Additionally, greater dispersion in votes has a negative effect on the level of dividends paid by management. This finding is contrary to a monitoring role that forces management to select an optimal level of debt and reduce their retention of retained earnings. It is consistent with other findings that suggest non-management substantial holders actively engage in private rent extraction. They receive benefits from the firm in a form other than dividends (Shleifer and Vishny, 1997; Konijn et al., 2011).

The remainder of the paper is organised as follows. Section 2 provides an overview of the literature and presents the testable hypotheses. Section 3 explains the data and research design. Section 4 presents the results from fixed-effects panel and GMM tests and the paper concludes in Section 5 with a discussion and summary of findings.

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3 See Eggleston Committee’s Second Interim Report, 1969, para.4.
2. LITERATURE REVIEW

2.1 Theory of Corporate Policies

The separation of ownership from control in the firm has long been recognised in the literature. In Berle and Means (1932), the separation of management from dispersed ownership is characteristic of what they refer to as the modern corporation. In Jensen and Meckling (1976) it is argued that this separation constitutes an agency relationship between management and shareholders. A consequence of this is the pursuit of objectives by management that do not meet the objective of maximising the welfare of shareholders. As dispersed shareholders have no financial incentive to individually monitor management’s actions and cannot coordinate their monitoring activities with other shareholders, firm value is reduced by the incurrence of agency costs.

In a firm characterised by the absence of market frictions, it is theorised that financial policies are irrelevant to firm value (Miller and Modigliani, 1958). However in Jensen and Meckling (1976) firms are exposed to agency costs equal to (i) the cost of monitoring the self-interested behaviour of management, (ii) the cost of designing incentive schemes that align the interests of management with dispersed shareholders, and (iii) any residual loss incurred by dispersed shareholders that directly result from self-interested managerial decisions.

2.1.1 Pecking Order Theory and Corporate Policy

The pecking order theory is from Myers (1984), and Myers and Majluf (1984). Associated with separation of ownership from management is information asymmetry. As management is entrusted to make operating decisions in the firm, they are better informed about the value of the firm compared to shareholders. To fund a new investment project, management have access to retained earnings, debt and equity. Retained earnings have no adverse selection problem as access to this financing does not require a risk premium associated with information asymmetry. Equity is subject to serious adverse selection problems while debt has only a minor adverse selection problem. From the point of view of an outside shareholder, equity is riskier than debt. Therefore a shareholder will demand a higher rate of return on equity than on debt. From the point of view of management, retained earnings are a better source of financing than debt. Accordingly, the firm will finance all investment projects using retained earnings, then debt, followed by equity financing. Here a firm’s capital structure will represent the result of this decision process.

2.1.2 Agency Costs and Corporate Policy

At the heart of a firm’s agency problem is the divergent interests of management to that of shareholders. Management have an incentive to make decisions in the firm that benefit themselves possibly at the expense of other shareholders. Decisions include (i) minimising the risk that a firm will become bankrupt, and (ii) increasing the benefits that accrue from holding a management position.
In Fama (1980), management is viewed as a marketable asset valued according to its stream of future cash flows. Here, as risk adverse managers bear a risk that is associated with the success of the firm employing them. Self-interested managers have incentives to lower the non-diversifiable employment risks by ensuring the continued viability of the firm (Amihud and Lev, 1981; Crutchley and Hansen, 1988). One technique for reducing the non-diversifiable employment risk is by decreasing the firm’s debt holdings (Friend and Lang, 1988) as debt itself increases the bankruptcy risk of the firm. Conversely, managers may prefer to increase leverage in order to inflate the voting power of their own shareholding in the firm (Harris and Raviv, 1988; Stulz 1988).

Balancing actions that are associated with minimising the risk of corporate failure, management have a strong incentive to maximise their salary and other perquisites associated with holding a management position. The preservation of free cash flow is asserted in the literature to affect a firm’s financing decisions. Jensen (1986) proposes that management is reluctant to return free cash flow to shareholders for two reasons. First, large cash reserves increase the autonomy of managers in capital markets. If management distribute all excess cash to shareholders as a dividend, future projects must be subject to the scrutiny of capital markets to ensure that they are economically sound prior to any funds being provided (Harford 1999). Second, managers are reluctant to return free-cash flow in the form of a dividend due to its influence on the size of the firm. Cash that is undistributed as a dividend is an asset recorded on the balance sheet of a public corporation. Its retention increases the size of the entity operated by management. In Murphy (1985) it is reported that changes in executive compensation are positively related to growth in sales as opposed to sales itself. This suggests that executive compensation is driven by growth in the size of the firm and not firm performance. Additionally, Baker (1986) suggests that the tendency of firms to reward middle management through promotion rather than periodic bonuses creates a strong organisational bias towards corporate growth to supply the new positions that such a promotion based rewards system requires. If the retention of free cash flow has an effect on the size and growth of the firm, self-interested managers will be reluctant to return profits in the form of a dividend as this reduces the salary they earn holding the position.

2.1.3 Conclusion

In this paper on the effect of substantial holders on corporate policies of the firm, leverage and dividend payout are the focus. As highlighted, the presence of agency costs in the firm has an effect on other corporate actions including the quality of a firm’s investments and executive remuneration. Management can extract private benefits in the form of an above average salary (Jensen and Meckling, 1976) or demand a greater salary by increasing the size of the firm at the expense of shareholders if negative NPV projects are pursued (Murphy 1985). Central to a firm’s agency problem is the retention of free cash flow (Jensen 1986; Jensen 1989). The literature asserts that debt (or capital structure) and dividends are mechanisms designed to minimise agency costs as they require the return of free cash flow in the firm. In studying the effect of substantial holders on leverage and dividend payout, this study asks whether substantial holders affect management’s decision to return free cash flow and reduce agency costs in the firm.
2.2 Monitoring and the Large Shareholder

2.2.1 Managerial Ownership and Monitoring
The corporate finance literature has long suggested that managerial ownership is an important mechanism to reduce agency conflicts through the alignment of interests between management and shareholders. Jensen and Meckling (1976) argue that the relationship between managerial share ownership and corporate debt is complex. It is argued that managerial share ownership can reduce managerial incentives to consume perquisites, expropriate wealth and to engage in other non-maximising behaviour. However, as the level of managerial ownership increases, control over the firm passes from external shareholders to the managers. At some point, managerial entrenchment occurs where there will be no constraints on managerial behaviour leading to an increase in managerial opportunism. At high levels of managerial ownership, risks associated with the pursuit of self-interested activities arise due to management’s large exposure to the firm. Hence, at high levels of managerial share ownership there are incentives for management to decrease debt.

Alternatively, Jensen and Meckling (1976) argue that there is an optimal level of internal control mechanisms required within a firm. Corporate debt and dividends are internal control mechanisms that reduce agency costs (Grossman and Hart, 1980). The obligation associated with debt reduces management’s discretionary control over the firm’s cash flow and their incentives to engage in non-optimal activities. At high levels of managerial ownership, the alignments of interests between management and shareholders may be strong so that there are few agency-related benefits from increased use of debt.

2.2.2 A Single Large Shareholder and Monitoring
Although a firm is characterised by its separation of ownership from control, theory does predict an important role for a large shareholder that adds value. In Grossman and Hart (1980), it is argued that an outsider without a shareholding in a diffusely held firm would never acquire the firm to effect an improvement in management. If such improvement plans are understood by existing shareholders, they will demand the value of the improvement in return for their shares. It similarly follows that if one shareholder devotes costly resources to improve management, then all shareholders will benefit as they free ride on an increase in firm value attributed to improved management. Building on a monitoring theory advanced in Jensen and Meckling, it is argued in Easterbrook and Fischel (1981) that associated with an accumulation of shares is an increased incentive to monitor and improve the performance of management, as a large shareholder is able to capture a greater proportion of reduced agency costs in the form of an increase in firm value. Shleifer and Vishny (1986) further shows that the presence of a large shareholder provides a partial solution to the free rider problem associates with dispersed shareholders monitoring the performance of
management. In these three seminal studies, it is hypothesised that the large shareholder performs a monitoring role that adds value to the firm.

Although a monitoring role performed by the large shareholder is beneficial, Burkart, Gromb and Panunzi (1997) propose a potential trade-off in the form of reduced initiative by management to search for firm-specific investments. Even if managerial discretion reduced value ex-post, Burkart et al. purports that initiative can be beneficial ex-ante as it favours firm-specific investment. Management is expected to show less initiative to search for firm-specific investments when a large shareholder is more likely to intervene.

### 2.2.3 Costs of a Single Large Non-Managerial Shareholder

A monitoring role for the large shareholder is associated with costs. In Admanti, Pfleiderer and Zechner (1994), it is shown that the large shareholder will have too small an ownership interest in equilibrium and will under invest in monitoring activities. Even if it reduces the incentive to monitor management, the large shareholder will prefer to diversify their shareholding. Demsetz (1986) further proposes that large shareholders will require a form of compensation for the cost of holding an undiversified portfolio. Importantly, the market provides liquidity. Bhide (1993) and Coffee (1991) suggest that this makes the sale of a large shareholding easier, thus reducing the threat of monitoring and intervention by a large shareholder.

The desire for diversification and the presence of liquidity in the market alters the incentive by a large shareholder to perform a monitoring role that adds value to the firm. However, the act of monitoring itself is expected to be associated with the production of firm-specific information by the large shareholder (Jensen and Meckling, 1976). In Kahn and Winton (1998), an institution faces a trade-off in their ability to trade on this information and use this same information to intervene. The decision to intervene in management is dependent on the value of the firm that results from intervention and any lost trading profits. When the market perceives the firm to be a good performer and liquidity in the market for its shares is high, Kahn and Winton show that trading by an institution is encouraged at the expense of intervention. Noe (2002) additionally theorises that monitoring by ‘strategic’ shareholders is dependent on their ability to capture trading profits sufficient to justify the cost of monitoring. Optimal monitoring results in a strategic shareholder buying shares prior to monitoring, and selling or holding onto shares if they choose not to monitor. Core strategic shareholders with the greatest likelihood of monitoring are most likely to profit by

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4 See also Demsetz and Lehn (1985) where it is argued that monitoring by the large shareholder restrains management from consuming resources at the expense of disperse shareholders.

5 Demsetz and Lehn (1985) propose an irrelevance theory of large shareholders and their influence on firm value. Although they argue that monitoring by large shareholders restrains consumption of corporate resources, there absence also provides compensating advantages on the firm.

6 Leland and Pyle (1977) show that it may be in the interest of a risk-averse entrepreneur going public to retain a large shareholding as a signal of quality.

7 Maug (1998) theorises that liquidity provides an incentive for the large shareholder to invest in information generating activities.
selling out if they decide not to monitor, unlike fringe strategic shareholder who will be deterred by a bid-ask spread upon selling.⁸

2.2.4 Effect of a Large Shareholder on Corporate Policies
The literature on the effect of large shareholdings can be subdivided into that relating to (i) the size of the largest shareholders in the firm, and (ii) the presence of an investor holding greater than a specified ownership level in the firm, i.e. a block holder.

A substantial body of literature has reported significant effects of block holders on firms’ investment, financing and executive compensation policies. Bethel, Liebeskind and Opler (1998) examine the purchase of block holdings for 425 US firms between 1980 and 1989, and the financial characteristics of the target firm. Consistent with the view that block holders rectify problems of poor corporate performance, it is reported that activist investors target poorly performing, diversified firms. Their investment is followed by an increase in divestures and share repurchases, and by a decline in mergers and acquisitions. Conversely, financial and strategic investors target underperforming firms but do not undergo similar operational changes. In Mehran (1995) it is argued that monitoring by block holders act as a substitute for incentive-based compensation.

In studying the effect of a large shareholder on corporate policies of a firm, heterogeneity in the behaviour of block holders is problematic. In many studies where heterogeneity is not accounted for, no effect is reported. In Masulis, Wang and Xie (2007) it is reported that the percentage ownership held by a firm’s largest institutional block holder is not related to acquirer announcement returns. Similarly, Kaplan and Minton (2006) report no effect of the presence of a block holder on CEO turnover.

In Friend and Lang (1988), it is reported that the presence of a managerial blockholder is associated with a decrease in the level of debt. This relationship is reported to be independent of the presence of non-managerial blockholders. It is concluded that this reflects the greater non-diversifiable risk that is associated with debt for management compared to other shareholders for maintaining a low debt ratio. However a blockholder is defined here according to a ten percent threshold of ownership as opposed to a five percent voting criterion implied by a substantial holding. Brailsford, Oliver and Pua (2002) report Australian evidence indicating that the level of external block ownership is positively related to leverage. However block ownership is defined as the aggregate ownership held by the five largest shareholders, not as aggregate votes held by all holders of greater than five percent of voting rights implied by a substantial holding.

Controlling for heterogeneous beliefs, skills and preferences of individual block holders, Cronqvist and Fahlenbrach (2009) examine whether the presence of a block holder, defined according to a five percent

⁸ Recently, Edmans (2009) theorises that large shareholders can exert governance even if they do not intervene. They have a strong incentive to monitor the firm’s fundamental value because they can sell their stake upon negative information. By trading on private information, they cause prices to reflect fundamental value and encourage management to invest in long term growth rather than short term profits.
ownership criterion, has an effect on financing decisions that include the level of debt and payment of dividends, along with investment and executive remuneration. Their sample is unique as it covers a broad sample of firms between 1996 and 2001. In capturing such a large universe of firms, Cronqvist and Fahlenbrach are able to analyse the identity of the individual block holder across all firms. Here, a significant block holder effect is reported for investment, financial and executive remuneration policies. Unrelated to a firm’s financing decisions, Kim (2010) examines the level of outside block ownership and its effect on the pay-performance sensitivity to firm performance. Using a similar sample of firms in Cronqvist and Fahlenbrach, it is reported that total block ownership is associated with improvements in pay-performance sensitivity of CEO compensation via increased sensitivity of CEO pay to skill, where skill is defined as the firm-specific component of stock performance.

2.3 Large Shareholders and the Modern Firm
The literature reviewed on large shareholders, is primarily drawn on US findings characterised by a common-law origin. Here the literature has modelled ownership in firms as highly dispersed and absent of a block holder (Denis and McConnell, 2003). Despite this assertion, Holderness (2009) refutes the claim. It is reported that 96 percent of firms have at least one block holder and the aggregate ownership of all block holders is on average 39 percent. In Edmans and Manso (2011), the number of block holders for a sample of 1500 US firms between 1999 and 2005 are examined. It is reported that 70 percent of US firms have one or more block holders.

In Australia, firms are similarly characterised by the presence of a large shareholder. Considering a small sample of Australia’s largest firms in 1999, La Porta, Lopez-de-Silanes and Shleifer (1999) found that 45 percent had a shareholder holding more than 10 percent of shares. In Dignam and Galanis (2004), it is reported that in 1996, 45 percent of firms on the ASX All Ordinaries Index had a non-financial shareholder holding more than 20 percent of shares.

2.3.1 Multiple Large Shareholders and Private Benefits
In Holderness (2009), and Edmans and Manso (2011), it is reported that the presence of a block holder in the firm is pronounced. Additionally, the occurrence of multiple block holders is common. While private benefits are expected to accrue to management who are effectively unmonitored by dispersed shareholders, it is also argued that the large shareholder is able to use their shareholding to secure benefits (Shleifer and Vishny, 1997). Here the large shareholder devotes less resources to monitoring the firm and effecting a change in its operations and is instead remunerated via private benefits that include above average salaries for individual shareholders that perform a managerial role, and below cost transfer prices to corporate shareholders (Barlcay and Holderness, 1989). In this situation, multiple large shareholders are able to cross monitor each other, reduce the ability of a controlling block holder to effectively expropriate wealth from
other shareholders, and thus encourage a controlling block holder to monitor the firm for the benefit of all shareholders (Winton 1993; Pagano and Roell, 1998; Bolton and Von Thaden, 1998).

In contrast, Zwiebel (1995), and Bennedsen and Wolfenzon (2000) propose that large shareholders can compete to form a controlling coalition because there are private benefits to be derived from a controlling shareholding. Here, the presence of multiple large shareholders creates an agency problem between shareholders. If a winning coalition has a small aggregate shareholding, then expropriation of company resources at the expense of other shareholders is likely as it involves only a small reduction in the coalition’s cash flow rights as shown in Jensen and Meckling (1976). A controlling coalition of large shareholders with a small aggregate shareholding has this incentive and the ability via a sufficient aggregate controlling shareholding to divert company resources for a private gain at the expense of other shareholders. Bloch and Hege (2001) further show that enhanced monitoring is less likely when ownership is unevenly distributed. This implies that monitoring effort that improves operating changes is less likely when ownership is less evenly distributed.

2.3.2 Multiple Large Shareholders and Value

Employing a Finnish sample of firms and defining a large shareholder as holding greater than ten percent of a firm’s shares, it is reported in Maury and Pajuste (2005) that firm value is maximised when voting rights among its large shareholders are more equally distributed. This is particularly important when the controlling shareholder is a family. Maury and Pajuste argue that this is consistent with a large family shareholder being engaged in private benefits of control, and other large shareholders acting to mitigate the incidence of such expropriation. Attig, Guedhami and Mishra (2008) focus on the identity of the second largest shareholder and how their presence alleviates a firm’s agency cost and information asymmetry manifested in the cost of equity financing. Using a similar ten percent threshold of ownership, it is reported for a sample of 1165 companies in East Asia and Western Europe that the implied cost of equity decreases with the presence, size and identity of other large shareholder beyond the controlling shareholder. Further, Attig, Ghoul and Guedhami (2009) document how the presence of multiple large shareholders affects the value of 1252 companies in the East Asian capital market. The presence, number and size of multiple large shareholders beyond the controlling shareholder have a positive effect on firm value highlighting the important governance role of multiple large shareholders in capital markets characterised by a code law origin.

In the US, Konijn et al., (2011) examine multiple block holder structures in a common-law economy. Their study uses a sample of 1500 US firms between 1996 and 2001. Unlike other findings, it is reported that both the total ownership stake of block holders and the dispersion of their ownership is negatively related to firm value as measured by Tobin’s Q. Konijn et al. suggest that there findings indicate the possibility of private benefits of control by block holders. Also, the results suggest that block holder dispersion is bad for firm
value. It is argued that dispersion limits the ability of smaller block holders to monitor the largest block holder.

2.3.3 Conclusion

A review of the literature on the effect of substantial holders is concerned only with their presence in the firm and effect on corporate policies. Recent findings have highlighted an important role for multiple substantial holders (Edmans and Manso, 2011) and its effect on a firm’s monitoring environment. A summary of this is provided in Table 1. The role of multiple substantial holders in common law countries is unknown compared to that of code law countries making further research on its effect in similar jurisdictions important (Konijn et al., 2011). It is asserted that large shareholders have a greater incentive to monitor management and affect their decisions (Grossman and Hart, 1980; Easterbrook and Fischel, 1981; Shleifer and Vishny, 1986). This paper adds to the literature in understanding the effect of a firm’s structure of substantial holders on its capital structure and dividend policy decisions.

Table 1 – Structure of substantial holdings and agency theory

<table>
<thead>
<tr>
<th>Substantial Holding</th>
<th>Effect</th>
<th>Literature</th>
</tr>
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<tbody>
<tr>
<td>Size of substantial holding</td>
<td>An increase in the size of a substantial holding equals a greater incentive to monitor management and reduce agency costs borne by all shareholders</td>
<td>Jensen and Meckling, 1976; Grossman and Hart, 1980; Easterbrook and Fischel, 1981; Shleifer and Vishny, 1986</td>
</tr>
<tr>
<td>Dispersion of substantial holdings</td>
<td>Where a controlling substantial holder is extracting private benefits from the firm, the relative size of smaller substantial holders limits the size of these private benefits</td>
<td>Winton 1993; Pagano and Roell, 1998; Bolton and Von Thaden, 1998</td>
</tr>
<tr>
<td>Number of substantial holders</td>
<td>The presence of another substantial holder beyond the controlling substantial holder serves as a monitor of the controlling substantial holder. If the controlling substantial holder extracts private benefits, their presence limits this.</td>
<td>Maury and Pajuste (2005); Attig, Guedhami and Mishra (2008); Attig, Ghoul and Guedhami (2009)</td>
</tr>
<tr>
<td>Identity of the substantial holder</td>
<td>It is asserted that a substantial holding held by management is able to extract private benefits in the form of an above average salary and other perquisites. Here, an agency conflict exists between the substantial holder and other shareholders that create agency costs.</td>
<td>Jensen and Meckling (1976); Morck, Shleifer and Vishny (1988)</td>
</tr>
</tbody>
</table>
2.4 Hypotheses

In this paper, a hypothesised role for the substantial holder is dependent on (i) whether the substantial holder is in a management position, (ii) the size of a substantial holding, and (iii) the dispersion of a firm’s substantial holdings. It is hypothesised that the size of a substantial holding held by non-management substantial holders and the dispersion of holdings influence a firm’s monitoring environment. This in turn affects decisions by management relating to leverage and the return of profits in the form of a dividend to other shareholders.

*Ceteris paribus*, the monitoring literature argues that the ability of a large shareholder to reduce an agency conflict between management and other shareholders increases with the size of a substantial holding. The shareholder is increasingly able to devote costly monitoring resources as the gains from a reduction in agency costs increase with the size of their holding (Grossman and Hart, 1980; Easterbrook and Fischel, 1981; Shleifer and Vishny, 1986). To the contrary, Noe (2002) shows that when monitoring by a large shareholder is dependent on the ability to capture trading profits to justify the cost of monitoring, the largest substantial holder will have no incentive to monitor management’s actions. In this paper, it is hypothesised that a greater incentive exists to monitor management’s decision on leverage and dividend policy when substantial holders have a greater aggregate number of votes in the firm. Here, leverage and dividend payout is higher as the substantial holder is able to restrict management discretion in reducing leverage and dividend payout below a level that is otherwise optimal or expected. This in turn curtails management discretion to undertake value reducing activities that are associated with excess free cash flow. I formally state the following hypotheses:

- **H1a:** Leverage is negatively related to the total votes held by substantial holders
- **H1b:** Dividend payout is negatively related to the total votes held by substantial holders

The literature is yet to examine the influence of multiple substantial holders on corporate policies. It is argued that multiple substantial holders effectively monitor the controlling holder (Winton 1993; Pagano and Roell, 1988; Bolton and Von Thaden, 1998). When the largest substantial holder has a management position, they control voting rights in the firm and are entrenched (Attig et al., 2008; Attig et al., 2009). In this paper, when management is in a position that they extract private benefits, smaller substantial holders monitor their activities in the firm. Entrenched management will make decisions that increase private benefits that can take the form of an increase in salary and other perquisites. They will also make decisions that reduce the risk associated with company failure to protect these private benefits. This is associated with a reduction in dividend payout and leverage below a level that is otherwise optimal or expected (Jensen 1986; Friend and Lang, 1988). In this paper, dispersion of voting rights is undesirable as it limits the ability of smaller substantial holders to challenge the largest substantial holder’s actions. It results in less optimal financing decisions that are less than optimal.
I formally state the following hypotheses:

$H_{2a}$: Leverage is positively related to dispersion of votes held by all substantial holders in the firm

$H_{2b}$: Dividend payout is positively related to dispersion of votes held by all substantial holders in the firm

3. DATA and METHOD

3.1 Sample

In this study an Australian sample is chosen. Despite its relatively small size, the Australian capital market is highly developed compared to other well developed capital markets. Unlike the US, the Australian market has unique characteristics regarding the continuous disclosure regime required of substantial holders. This is in regard to their intent to influence control within the firm. In the US, passive shareholders can choose to annually disclose their holdings in a Form 13G filed with the Securities Exchange Commission (SEC). As an Australian sample captures continuous disclosure of all movements in substantial holdings, it mitigates a sample selection bias associated with examining disclosure of active substantial holders only. In studying the structure of substantial holdings within the firm, an Australian sample contributes to the literature where a block holder is defined as holding at least five percent of a firm’s shares (Holderness 2003; Dlugosz et al., 2006; Cronqvist and Fahlenbrach, 2009). It focuses on all shareholders where the capacity rather than intent to influence control is present.

A total of 490 firms listed on the ASX All Ordinaries Index at the 1st January 2001 form the basis of this study. In Australia annual disclosure of substantial holders is required by the Australian Securities Exchange as additional information to be included by listed firms in the annual report. The information provided must be current and “not more than 6 weeks before the report is sent to security holders” (ASX 2012). Disclosure must include the name of all substantial holders and the number of equity securities to which each substantial holder has a relevant interest at that time. The Corporations Act 2001 came into effect on the 15th July 2001. To ensure consistency in the legislative treatment and definition of substantial holders, annual disclosure as at the 15th July 2001 to 31st December 2009 is included in the analysis. Annual disclosure of substantial holders is collected from annual reports. Each statement of substantial holdings from an annual report is checked for clarification with the definition of a substantial holder. In this study, data on substantial holdings from a firm’s annual report is included in the analysis where reference is made to either:

i. The last notice provided by a given substantial holder;

ii. The definition of a substantial holder provided in sec.671 of the Corporations Act 2001; or,

iii. The requirement to provide disclosure in sec.671 of the Corporation Act 2001

Kim, Kim and Kwon (2009) report significant value associated with a distinction between active and passive outside substantial holders in the Korean market.
For each disclosure, substantial holders are classified as either a (i) company, (ii) financial institution, (iii) director/officer, (iv) individual, (v) government institution, or (vi) employee benefit scheme. In this paper, a distinction is made if the substantial holder has a management position, either as a director or officer of the firm. Two documents are examined to further ascertain this. First, the annual report is examined for disclosure of a director’s interest in shares and whether an insider holds a relevant interest in securities of a disclosed substantial holder. Second, initial substantial holder notices required under sec.671 of the Corporations Act 2001 are examined to determine the nature of a relevant interest and related entities associated with the disclosed substantial holder.

3.2 Method
This paper presents a study on the effect of substantial holders on a firm’s leverage and dividend policy. An inherent problem associated with any study on the effect of ownership structure is endogeneity. In drawing any conclusion on the economic effect of substantial holdings, it cannot be assumed that substantial holdings are randomly allocated. The level of a firm’s substantial holdings is itself likely to be determined by economic factors. Two methods are used to test the hypotheses proposed in section 2.4. First, a fixed-effects panel model is used that corrects for unobserved heterogeneity. This is present when a relationship between two variables is affected by an unobservable factor. Second, a dynamic system GMM model that further corrects for dynamic endogeneity. This is present when a variable’s current value is influenced by its previous value.

3.2.1 Model
In this paper, two basic models are proposed. In model 1, the level of leverage is estimated. In model 2, the level of dividends is estimated. The two equations take the following form:

\[ \text{Leverage}_{y,t} = \alpha + \beta_1 \%\,\text{OUT}_{y,t-1} + \beta_2 \%\,\text{MGMT}_{y,t-1} + \beta_3 \text{HERF}_{y,t-1} + \beta_4 \text{DIVDUMMY}_{y,t-1} + \beta_5 \text{ROA}_{y,t-1} + \beta_6 \text{INTA}_{y,t-1} + \beta_7 \text{SIZE}_{y,t-1} + \beta_8 \text{GROWTH}_{y,t-1} + \text{YearEffects} + \varepsilon \]

(1)

\[ \text{Dividend}_{y,t} = \alpha + \beta_1 \%\,\text{OUT}_{y,t-1} + \beta_2 \%\,\text{MGMT}_{y,t-1} + \beta_3 \text{HERF}_{y,t-1} + \beta_4 \text{DEBT}_{y,t-1} + \beta_5 \text{ROA}_{y,t-1} + \beta_6 \text{CAPEXA}_{y,t-1} + \beta_7 \text{SIZE}_{y,t-1} + \beta_8 \text{GROWTH}_{y,t-1} + \text{YearEffects} + \varepsilon \]

(2)

where \text{DIVDUMMY} is equal to one if the firm paid dividends and zero otherwise, \text{ROA} is equal to reported net profit after tax divided by total assets, \text{INTA} is equal to total intangible assets divided by total assets, \text{SIZE} is equal to the natural logarithm of total assets, \text{GROWTH} is equal to total assets divided by total assets in the previous year, \text{DEBT} is equal to total debt divided by market capitalisation plus total debt, and \text{CAPEXA} is equal to capital expenditure divided by lagged total assets. \text{HERF} equals a proxy for dispersion in control.
held by all substantial holders and $\%_{\text{OUT}}$ equals the aggregate percentage votes held by all non-management substantial holders. $\%_{\text{MGMT}}$ equals the aggregate percentage votes held by substantial holders that are officers or directors of the firm plus the aggregate percentage votes held by an employee benefit scheme set up for employees of the firm.

To calculate dispersion, $HERF$ is equal to the scaled herfindahl index of all substantial holders. To measure the herfindahl index, I modify the approach in Konijs et al., (2011) and calculate a scaled version of this measure based on all $n$ management and non-management substantial holders. $HERF$ equals:

$$\frac{\sum_{i=1}^{n} w_i^2}{(\sum_{i=1}^{n} w_i)^2}$$ (3)

The variables in equation 3 test a hypothesised effect of substantial holders on the leverage and dividend decision by management. In Table 2, a summary is provided for each variable and how it relates to the hypotheses proposed in section 2.4.

| Variable | Hypothesis | Dependent Variable – Corporate Policy |
|----------|------------|--------------------------------------|-------------------------------------|
| $\%_{\text{OUT}}$ | 1 – Size | High value of $\%_{\text{OUT}}$ = high level of Leverage | High value of $\%_{\text{OUT}}$ = high level of Dividend |
| $HERF$ | 2 – Dispersion | High value of $HERF$ = low value of Leverage | High value of $HERF$ = low value of Dividend |

$\%_{\text{OUT}}$, total percentage votes held by all non-management substantial holders; $HERF$, scaled herfindahl index of all substantial holders.

### 3.2.2 Measure of Leverage and Dividend Payout

In this paper, the decision between debt versus equity and the decision to pay dividends is modelled in terms of its level at the financial year end. In the above models, the dependent variable is (i) leverage or capital structure, and (ii) dividend payout. The variables are reviewed below.

#### Capital Structure

In this paper, I employ two variables that measure the proportion of debt to equity financing in the firm. Debt is measured as total liabilities. Equity is measured in two ways. First, equity is measured as the market value of equity. This measure incorporates the market value of equity to its shareholders and equals the net present value of expected future cash flows from the firm. Second, equity is measured as the book value of total equity. Academics have long been a proponent of the first measure to calculate leverage (Welch 2004). However, it is reported that practitioners prefer to use a book value rather than a market value of equity to determine capital structure (Myers 1977; Graham and Harvey, 2001). Two variables are created including
MKTLEV equal to book value of total short term debt and long term debt divided by market capitalisation plus total debt, and BOOKLEV equal to book value of total short term debt and long term debt divided by total assets.

**Dividend Policy**

In this paper, I employ two variables that measure the level of dividends paid by management to its shareholders. To measure the level of dividends, I create a variable DIVP equal to total dividends paid divided by reported net income after tax. To test the robustness of my findings, I additionally create a variable DIVA equal to total common dividends divided by total assets. Here, dividends are scaled by total assets instead of earnings for two reasons. First, when earnings are negative the payout ratio becomes meaningless. Second in Australia, there is a high incidence of negative reported earnings. In Wilson and Wang (2010), and Wilson and Wu (2011) approximately 33 percent of Australian observations report a negative return on assets. Additionally, the incident of reported losses is much higher in Australian compared to the US (Balkrishna, Coulton and Taylor, 2007).

4. **RESULTS**

4.1 **Annual Disclosure of Substantial Holders**

To examine the effect of substantial holders on capital structure and dividend policy, I employ a sampling procedure that is summarised in Table 3. Annual disclosure of the level of control held by substantial holders is extracted from annual reports filed by firms. Observations are removed where disclosure is missing or incomplete, where disclosed holders refer to the top 20 shareholders, and where the identity of a substantial holder is unknown. The sub sample is reduced to 1753 observations. After further removing observations where data is unavailable on leverage and dividends, the final sample includes 1662 observations for capital structure (BOOKLEV) and 1661 observations for dividend policy (DIVA).
Table 3 – Sample selection procedure

<table>
<thead>
<tr>
<th>Selection Criteria</th>
<th>Number of Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of annual reports from 15 July 2001 – 31 December 2009</td>
<td>3028</td>
</tr>
<tr>
<td>Less: Disc. that is either missing, incomplete or makes reference to legislation outside of Australia</td>
<td>416</td>
</tr>
<tr>
<td>Disc. that refers to top 20 shareholders</td>
<td>583</td>
</tr>
<tr>
<td>Disc. where the identity of a holder is unknown</td>
<td>276</td>
</tr>
<tr>
<td>Sub Sample</td>
<td>1753</td>
</tr>
<tr>
<td>Final Sample (after removing missing dependent variables)</td>
<td></td>
</tr>
<tr>
<td>Capital Structure</td>
<td>1662</td>
</tr>
<tr>
<td>Dividend Policy</td>
<td>1661</td>
</tr>
</tbody>
</table>

Capital Structure, BOOKLEV; Dividend Policy, DIVA.

Figure 1 provides detail on the frequency of observations through time. In this study, the sample of 490 firms includes all firms listed on the S&P/ASX All Ordinaries Index at January 1, 2001. As resampling does not occur each year in this study, it is subject to a survivorship bias. The data on substantial holders is collected from 2001 to 2009. In testing model one and two, these observations for substantial holders predict leverage and dividends from 2002 to 2010. From 2002 to 2010, the sample of observations decreases slightly as firms in the original sample are increasingly delisted from the Australian Securities Exchange. However, each year is represented in my study. The effect of the sample selection procedure is a reduction in the overall sample. In each year, less than half of the original sample of 490 firms is represented. In 2003, the original sample is most represented. Here, 207 observations for capital structure and 207 observations for dividend policy are reported. In 2010, the original sample is least represented.

Figure 1 – Yearly observations of dividend policy and leverage associated with annual disclosure of substantial holders reported between July 15, 2001 and December 31, 2009 for 490 firms listed on ASX.
Descriptive statistics are presented in Table 4. Panel A includes statistics on capital structure and dividend policy. The minimum and maximum values of total debt to total assets for the sample firms range from zero per cent to 94.25 per cent with an average of 21.80 per cent. Similarly, the minimum and maximum values of total debt to market capitalisation plus total debt for the sample firms range from zero per cent to 130.87 per cent with an average of 21.61 per cent. In this study, the mean (median) value of dividends paid divided by total assets is 3.66 percent (2.81 per cent). The dispersion of this variable is wide, ranging from a minimum of 0 per cent to a maximum of 30.57 per cent. Panel B of Table 4 includes descriptive statistics on substantial holders and other control variables. \(\%\_\text{OUT}\) is equal to the aggregate percentage of votes held by substantial holders that are not directors or officers in the firm. The average level of \(\%\_\text{OUT}\) for the sample firms is 27.85 per cent (median = 22.85 per cent). Like the US and economies in East Asia and Western Europe, the presence of a substantial holder is common in the sample firms. The average level of \(\%\_\text{MGMT}\) for the sample firms is 9.27 per cent (median = 0 per cent). In the sample firms, a substantial holding by an officer or director of the firm is not common. This is unlike the economies of East Asia and Western Europe where the controlling shareholding is typically held by a member of management (Maury and Pajuste, 2005; Attig et al., 2008).

Table 4 – Descriptive statistics

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Mean</th>
<th>S.D</th>
<th>Min</th>
<th>Median</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Panel A: Leverage and Dividend Payout</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(\text{MKTLEV})</td>
<td>1662</td>
<td>0.2180</td>
<td>0.2099</td>
<td>0.0000</td>
<td>0.1837</td>
<td>0.9425</td>
</tr>
<tr>
<td>(\text{BOOKLEV})</td>
<td>1662</td>
<td>0.2161</td>
<td>0.1953</td>
<td>0.0000</td>
<td>0.2053</td>
<td>1.3087</td>
</tr>
<tr>
<td>(\text{DIVP})</td>
<td>1538</td>
<td>0.5954</td>
<td>0.5908</td>
<td>0.0000</td>
<td>0.5402</td>
<td>4.2354</td>
</tr>
<tr>
<td>(\text{DIVA})</td>
<td>1661</td>
<td>0.0366</td>
<td>0.0444</td>
<td>0.0000</td>
<td>0.0281</td>
<td>0.3057</td>
</tr>
<tr>
<td><strong>Panel B: Explanatory Variables</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(\text{ASSETS (in 000,000's)})</td>
<td>1662</td>
<td>10,920</td>
<td>49,367</td>
<td>3.4996</td>
<td>716.791</td>
<td>475,170</td>
</tr>
<tr>
<td>(\text{ROA})</td>
<td>1660</td>
<td>0.0305</td>
<td>0.1812</td>
<td>-1.1595</td>
<td>0.0528</td>
<td>0.6598</td>
</tr>
<tr>
<td>(\text{INTA})</td>
<td>1661</td>
<td>0.1359</td>
<td>0.2051</td>
<td>0.0000</td>
<td>0.0185</td>
<td>0.7832</td>
</tr>
<tr>
<td>(\text{GROWTH})</td>
<td>1660</td>
<td>1.1619</td>
<td>0.5155</td>
<td>0.3232</td>
<td>1.0677</td>
<td>4.9728</td>
</tr>
<tr>
<td>(\text{CAPEXA})</td>
<td>1660</td>
<td>0.0716</td>
<td>0.1136</td>
<td>0.0000</td>
<td>0.0362</td>
<td>0.8709</td>
</tr>
<tr>
<td>(\text{HERF})</td>
<td>1534</td>
<td>0.5245</td>
<td>0.2730</td>
<td>0.1141</td>
<td>0.4900</td>
<td>1.0000</td>
</tr>
<tr>
<td>(%_\text{OUT})</td>
<td>1662</td>
<td>0.2785</td>
<td>0.2211</td>
<td>0.0000</td>
<td>0.2285</td>
<td>0.9704</td>
</tr>
<tr>
<td>(%_\text{MGMT})</td>
<td>1662</td>
<td>0.0927</td>
<td>0.1751</td>
<td>0.0000</td>
<td>0.0000</td>
<td>0.8899</td>
</tr>
</tbody>
</table>

\(\text{MKTLEV}\) equal to book value of total short term debt and long term debt divided by market capitalisation plus total debt; \(\text{BOOKLEV}\) equal to book value of total short term debt and long term debt divided by total assets; \(\text{DIVP}\) equal to total dividends paid divided by reported net income after tax; \(\text{DIVA}\) equal to total common dividends divided by total assets; \(\text{ROA}\) is equal to reported net profit after tax divided by total assets; \(\text{INTA}\) is equal to total intangible assets divided by total assets; \(\text{SIZE}\) is equal to the natural logarithm of total assets; \(\text{GROWTH}\) is equal to total assets divided by total assets in the previous year; \(\text{CAPEXA}\) is equal to capital expenditure divided by lagged total assets; \(\text{HERF}\) is equal to the scaled herfindahl index based on all substantial holders; \(\%\_\text{OUT}\) is equal to the aggregate percentage of votes held by substantial holders that are not directors or officers; \(\%\_\text{MGMT}\) is equal to the aggregate percentage of votes held by substantial holders that are a director or officer.
The average total assets sample firms is A$10.92 billion with a minimum and maximum of A$3.5 million and A$475.2 billion respectively. The sample firms range widely in size compared to the sample in Brailsford et al., (2002), and include larger firms. In this sample, the maximum value of total assets is A$475.2 billion compared to A$21.6 billion in Brailsford et al.

4.1.1 Control Variables

The underlying hypothesis in this paper is that capital structure and dividend policy is a function of a firm’s substantial holdings. Leverage and dividend payout is regressed on three variables that measure the size and distribution of a firm’s substantial holdings along with the presence of a managerial substantial holder. Other variables are included in the analysis to control for the effect of alternative factors reported to effect capital structure and dividend policy. These factors include:

\[ GROWTH = \frac{\text{total assets}}{\text{total assets in the previous year}}. \]  
Growth in the firm may be an indicator of profitability and success of the firm. If this is the case, \( GROWTH \) may proxy for available internal funds. If a firm is successful and earning profits, there should be sufficient internal funds available for investment. This may then be associated with the Myers and Majluf (1984) pecking order theory, which suggests a negative relationship with \( GROWTH \) and leverage.

\[ ROA = \frac{\text{reported net income after tax}}{\text{lagged total assets}}. \]  
Myers and Majluf (1984) relate profitability to capital structure by suggesting that more profitable firms will have less debt because retained profits are available for financing growth opportunities. These firms build their equity relative to their debt. Consistent with this, studies report a negative association between \( ROA \) and leverage (Friend and Lang, 1988; Jensen, Solberg and Zorn, 2002).

\[ INTA = \frac{\text{total intangible assets}}{\text{total assets}}. \]  
Asset specificity is argued to adversely affect a firm’s ability to borrow in Balakrishna and Fox (1993). Myers (1977) argues that agency costs associated with intangible assets are higher than those associated with tangible assets. It is expected that \( INTA \) is negatively related with leverage.

\[ CAPEXA = \frac{\text{total capital expenditure}}{\text{lagged total assets}}. \]  
According to the Myers and Majluf (1984) pecking order theory, firms will finance capital expenditures with retained earnings before debt or equity. Higher capital expenditure will be associated with lower dividends. It is expected that \( CAPEXA \) is negatively related to dividend payout.

A spearman correlation matrix is provided in Table 5. \( INTA \) and \( CAPEXA \) are bounded by zero and therefore exhibit positive skewness. Correlation analysis shows that some explanatory variables are significantly correlated. First, \( \%_{MGMT} \) and \( SIZE \) are significantly negatively correlated (-0.371). This statistics confirm a wealth constraint argument where the personal wealth constraints of officers and directors are an important barrier for them to acquire a substantial holding. A significant positive correlation between \( ROA \) and \( CAPEXA \) (0.200) is also found. This is expected as more profitable firms are expected to reinvest in growth
opportunities of the firm. Additionally, a significant positive correlation between INTASSET and CAPASSET (0.196) is reported. The significant correlation between these variables suggests that multicollinearity may be a potential problem in my analysis.

Table 5 – Spearman correlation coefficients for variables employed in analysis of leverage and dividend payout

<table>
<thead>
<tr>
<th></th>
<th>ROA</th>
<th>INTA</th>
<th>GROWTH</th>
<th>CAPEXA</th>
<th>HERF</th>
<th>%_MGMT</th>
<th>%_OUT</th>
</tr>
</thead>
<tbody>
<tr>
<td>SIZE</td>
<td>0.039</td>
<td>0.057</td>
<td>0.145</td>
<td>-0.070</td>
<td>0.036</td>
<td>-0.371</td>
<td>-0.023</td>
</tr>
<tr>
<td>ROA</td>
<td>0.081</td>
<td>0.393</td>
<td>0.200</td>
<td>-0.037</td>
<td>0.040</td>
<td>0.033</td>
<td></td>
</tr>
<tr>
<td>INTA</td>
<td>-0.035</td>
<td>0.196</td>
<td>-0.144</td>
<td>0.148</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GROWTH</td>
<td></td>
<td>0.209</td>
<td>-0.015</td>
<td>-0.039</td>
<td>0.048</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAPEXA</td>
<td></td>
<td></td>
<td>0.023</td>
<td>0.010</td>
<td></td>
<td></td>
<td>0.047</td>
</tr>
<tr>
<td>HERF</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-0.078</td>
<td>-0.355</td>
<td></td>
</tr>
<tr>
<td>%_MGMT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-0.215</td>
</tr>
</tbody>
</table>

All variables are measured as defined in Table 4

4.2 Analysis

To test hypothesis one and two, the analysis is first conducted in a fixed-effect panel model. This corrects for unobserved heterogeneity and omitted variable bias that may exist in the relationship of control by substantial holder with capital structure and dividend policy. This is followed by a Dynamic System GMM that additionally models an endogenously determined relationship of control by substantial holders with capital structure and dividend policy. Section 4.2.1 reports the results for capital structure and section 4.2.2 reports the results for dividend policy.

4.2.1 Capital Structure

Table 6 reports the analysis of factors expected to explain capital structure. In this study, two proxies of capital structure are analysed including BOOKLEV equal to total debt divided by total assets, and MKTLEV equal to total debt divided by market value of equity plus total debt. Overall, the fixed-effects panel is well specified (F-stat significant at \( p=0.00 \) level). However, the coefficient of the constant term in both the BOOKLEV and MKTLEV model is negative and highly significant (\( p<0.01 \)). Other factors constant, the model estimates a negative value of debt in the firm.

The fixed-effects panel models are presented in column two and four. Profitability (ROA) is negatively related to BOOKLEV and MKTLEV. This is consistent with the pecking order hypothesis of Myers and Majluf (1984) that suggests profitable firms will favour retained earnings over new debt to finance investment projects. Firm size (SIZE) measured as the natural logarithm of total assets is positively related to BOOKLEV and MKTLEV. This is consistent with Agrawal and Nagarajan (1990) where larger firms are likely to be more diversified and hence have a lower risk of bankruptcy to sustain a higher level of debt. Expectedly, the coefficient of %_MGMT is negatively related to BOOKLEV and MKTLEV. It is significant for MKTLEV (\( p<0.05 \)).
To the extent that a management substantial holder extracts private benefits from the firm (Jensen and Meckling, 1976; Morck et al., 1988), leverage is lower to minimise the risk of bankruptcy and protect private benefits.

Inconsistent with H1a, the result for BOOKLEV and MKTLEV shows an insignificant %OUT coefficient. The total voting rights held by all substantial holders that are not directors or officers of the firm is not related to the level of debt. It is hypothesised that a greater incentive exists for substantial holders to monitor management’s decision relating to the optimality of the leverage decision when their aggregate holding in the firm is larger (Grossman and Hart, 1980; Easterbrook and Fischel, 1981). The unexpected finding in Table 6 is in contrast to Brailsford et al., (2002). A positive effect on leverage is reported in their paper for total block holdings defined as the aggregate percentage of shares held by the five largest non-management shareholders. The result is however consistent with Noe (2002) who theorises that the incentive to monitor is not increasing in the size of a substantial holding. Here, it would be predicted that the level of leverage is not positively related with the aggregate votes held by non-management substantial holders.

Contrary to H2a, the results for BOOKLEV and MKTLEV shows a positive and negative HERF coefficient that in both cases is insignificant at the p=0.05 level. It is proposed that dispersion in substantial holdings has an effect on the monitoring environment of a firm and ultimately leverage (Konijn et al., 2011). In this study, dispersion in substantial holders does not affect leverage. If leverage is influenced by management’s preference to reduce the risk of corporate failure, a concentrated substantial holder structure has no beneficial impact on the effectiveness of monitoring by substantial holders.

The Dynamic System GMM models are presented in column three and five. The GMM extends the results of the fixed-effects panel to model an endogenously determined relationship of control and leverage. Overall the GMM models are well specified. The Sargan-test statistics indicate that the moment conditions are correctly specified and hence the instruments are valid. Also, the Arellano-Bond test statistics indicate that there is no autocorrelation in the errors suggesting the absence of autocorrelation in levels. Unlike the fixed-effects panel, profitability (ROA) is positively related to BOOKLEV and MKTLEV. This is inconsistent with the pecking order hypothesis of Myers and Majluf (1984). It is possibly driven by more profitable firms being able to meet higher interest payments associated with a higher level of debt. The results in the Dynamic System GMM are fundamentally the same as those reported for the fixed effects model. Support for H1a and H2a is not provided in column three and five.
Table 6 – Substantial holders and capital structure

<table>
<thead>
<tr>
<th>Regressor</th>
<th>BOOKLEV</th>
<th>MKTLEV</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fixed-Effects Panel</td>
<td>Dynamic Sys. GMM</td>
</tr>
<tr>
<td>L1.Leverage</td>
<td>N/A</td>
<td>0.8411**</td>
</tr>
<tr>
<td></td>
<td>(0.000)</td>
<td>(0.000)</td>
</tr>
<tr>
<td>Constant</td>
<td>-0.8181**</td>
<td>0.2377</td>
</tr>
<tr>
<td></td>
<td>(0.001)</td>
<td>(0.067)</td>
</tr>
<tr>
<td>DIVDUMMY</td>
<td>-0.0344</td>
<td>0.0451**</td>
</tr>
<tr>
<td></td>
<td>(0.150)</td>
<td>(0.000)</td>
</tr>
<tr>
<td>ROA</td>
<td>-0.0754**</td>
<td>0.0728**</td>
</tr>
<tr>
<td></td>
<td>(0.006)</td>
<td>(0.002)</td>
</tr>
<tr>
<td>INTA</td>
<td>-0.0572</td>
<td>-0.1196**</td>
</tr>
<tr>
<td></td>
<td>(0.347)</td>
<td>(0.002)</td>
</tr>
<tr>
<td>SIZE</td>
<td>0.0503**</td>
<td>-0.0146**</td>
</tr>
<tr>
<td></td>
<td>(0.000)</td>
<td>(0.001)</td>
</tr>
<tr>
<td>GROWTH</td>
<td>0.0038</td>
<td>-0.0054</td>
</tr>
<tr>
<td></td>
<td>(0.593)</td>
<td>(0.253)</td>
</tr>
<tr>
<td>HERF</td>
<td>0.0226</td>
<td>-0.0062</td>
</tr>
<tr>
<td></td>
<td>(0.384)</td>
<td>(0.645)</td>
</tr>
<tr>
<td>%_MGMT</td>
<td>-0.0685</td>
<td>0.0524</td>
</tr>
<tr>
<td></td>
<td>(0.454)</td>
<td>(0.182)</td>
</tr>
<tr>
<td>%_OUT</td>
<td>-0.0068</td>
<td>-0.0157</td>
</tr>
<tr>
<td></td>
<td>(0.855)</td>
<td>(0.665)</td>
</tr>
<tr>
<td>Obs.</td>
<td>1533</td>
<td>979</td>
</tr>
<tr>
<td>No. Groups</td>
<td>295</td>
<td>221</td>
</tr>
<tr>
<td>No. Instruments</td>
<td>N/A</td>
<td>86</td>
</tr>
<tr>
<td>Year Dummies</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Adjusted R²</td>
<td>0.0593</td>
<td>N/A</td>
</tr>
<tr>
<td>P &gt; F-stat</td>
<td>0.0000</td>
<td>N/A</td>
</tr>
<tr>
<td>Sargan p-value</td>
<td>N/A</td>
<td>0.44</td>
</tr>
<tr>
<td>A-Bond AR(1)</td>
<td>N/A</td>
<td>-4.05**</td>
</tr>
<tr>
<td>A-Bond AR(2)</td>
<td>N/A</td>
<td>0.09</td>
</tr>
</tbody>
</table>

All variables are defined in Table 4. DIVDUMMY is equal to one if the firm paid dividends and zero otherwise. * and ** denotes significance at the five and one percent level, respectively.

Standard errors are calculated using the White heteroscedasticity robust standard error and are reported in parentheses for the fixed-effects panel. Standard errors are calculated using the HAS robust two-step standard errors and are reported in parentheses for the Dynamic System GMM. AR(1) and AR(2) are tests for the first- and second-order autocorrelations in the first-difference residuals under the null of no autocorrelation in the first- and second-order residuals, respectively. The 'Sargan p-value' provides the level of significance of a Sargan test for the validity of the instruments used in the model under the null that the instruments used are exogenous.
4.2.2 Dividend Policy

Table 7 reports the analysis of factors expected to explain dividend policy. In this study, two proxies of dividend policy are analysed including $DIVA$ equal to total dividends paid divided by total assets, and $DIVP$ equal to total dividends paid divided by reported net income after tax. Overall, the fixed-effects panel is well specified for $DIVA$ (F-stat significant at $p=0.00$ level). The specification of the model for $DIVP$ is weaker (F-stat significant at $p<0.05$ level). Additionally the coefficient of the constant term for $DIVP$ is greater than one and significant ($p<0.05$). Other factors constant, the model estimates that firms pay dividends in excess of profits.

The fixed-effects panel models are presented in column two and four. Profitability ($ROA$) measured as net reporting income after tax divided by lagged total assets is positively related to $DIVA$ and negatively related to $DIVP$. As profitability increases, so too does the tendency of management to pay dividends. However, as profitability does increase the proportion of earnings returned to shareholders falls. Firm size ($SIZE$) is negatively related to $DIVA$ and $DIVP$. It is significant for $DIVA$ ($p<0.05$). Expectedly, the coefficient of $\%_{MGMT}$ is negatively related to $DIVA$ and $DIVP$ (significant at $p<0.05$ level). If management can increase their salary and extract perquisites by paying a lower level of dividends, it is expected that a management substantial holder will use a controlling voting position to pay a lower level of dividends (Jensen and Meckling, 1976; Morck et al., 1988).

Inconsistent with H1a, the result for $DIVA$ and $DIVP$ shows a highly significant negative $\%_{OUT}$ coefficient ($p<0.01$). The total voting rights held by all substantial holders that are not directors or officers of the firm is negatively related to the level of dividends. It is hypothesised that a greater incentive exists for substantial holders to monitor management’s decision on the level of dividends when the aggregate votes they hold in the firm is greater (Grossman and Hart, 1980; Easterbrook and Fischel, 1981). The opposite effect is reported in Table 7. In the US, Konijn et al., (2011) find that the total ownership stake of block holders is negatively related to firm value indicative of private benefits of control for non-management block holders. To the extent that private benefits are extracted by non-management substantial holders (Shleifer and Vishny, 1997), dividends paid will be lower as retained earnings are invested in activities that provide private benefits at the expense of minority shareholders.

Contrary to H2a, the results for $DIVA$ and $DIVP$ show a negative $HERF$ coefficient that is significant for $DIVP$ ($p<0.05$ level). It is hypothesised that dispersion in substantial holdings is an advantage to monitor private benefits extracted by the largest substantial holder. The results in Table 7 suggest that dispersion limits the ability of smaller substantial holders to monitor the largest substantial holder (Konijn et al., 2011). In turn, dispersion is associated with a lower level of dividends paid by management who are effectively unmonitored.
Table 7 – Substantial holders and dividend policy

<table>
<thead>
<tr>
<th>Regressor</th>
<th>DIVA Fixed-Effects Panel</th>
<th>Dynamic Sys. GMM</th>
<th>DIVP Fixed-Effects Panel</th>
<th>Dynamic Sys. GMM</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1.Dividend</td>
<td>N/A</td>
<td>0.7662**</td>
<td>N/A</td>
<td>0.1366**</td>
</tr>
<tr>
<td></td>
<td>(0.000)</td>
<td>(0.000)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>0.3553**</td>
<td>0.1674**</td>
<td>1.5948*</td>
<td>-0.0806</td>
</tr>
<tr>
<td></td>
<td>(0.003)</td>
<td>(0.000)</td>
<td>(0.028)</td>
<td>(0.874)</td>
</tr>
<tr>
<td>DEBT</td>
<td>-0.0279**</td>
<td>-0.0104</td>
<td>0.0192</td>
<td>0.0160</td>
</tr>
<tr>
<td></td>
<td>(0.008)</td>
<td>(0.269)</td>
<td>(0.920)</td>
<td>(0.901)</td>
</tr>
<tr>
<td>ROA</td>
<td>0.0440**</td>
<td>0.0308**</td>
<td>-0.2880*</td>
<td>-0.4760**</td>
</tr>
<tr>
<td></td>
<td>(0.001)</td>
<td>(0.000)</td>
<td>(0.015)</td>
<td>(0.003)</td>
</tr>
<tr>
<td>CAPEXA</td>
<td>0.0030</td>
<td>-0.0038</td>
<td>-0.1628</td>
<td>-0.0753</td>
</tr>
<tr>
<td></td>
<td>(0.775)</td>
<td>(0.668)</td>
<td>(0.256)</td>
<td>(0.548)</td>
</tr>
<tr>
<td>SIZE</td>
<td>-0.0143*</td>
<td>-0.0048**</td>
<td>-0.0340</td>
<td>0.0422</td>
</tr>
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<td>(0.013)</td>
<td>(0.003)</td>
<td>(0.308)</td>
<td>(0.054)</td>
</tr>
<tr>
<td>GROWTH</td>
<td>-0.0014</td>
<td>-0.0104**</td>
<td>0.0475</td>
<td>-0.0392</td>
</tr>
<tr>
<td></td>
<td>(0.630)</td>
<td>(0.000)</td>
<td>(0.287)</td>
<td>(0.081)</td>
</tr>
<tr>
<td>HERF</td>
<td>-0.0093</td>
<td>-0.0067</td>
<td>-0.1862*</td>
<td>-0.1547*</td>
</tr>
<tr>
<td></td>
<td>(0.115)</td>
<td>(0.112)</td>
<td>(0.049)</td>
<td>(0.025)</td>
</tr>
<tr>
<td>%_MGMT</td>
<td>-0.0270*</td>
<td>-0.0457**</td>
<td>-0.7968**</td>
<td>-0.1262</td>
</tr>
<tr>
<td></td>
<td>(0.042)</td>
<td>(0.000)</td>
<td>(0.005)</td>
<td>(0.439)</td>
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<tr>
<td>%_OUT</td>
<td>-0.0238**</td>
<td>-0.0355**</td>
<td>-0.4663**</td>
<td>-0.5196**</td>
</tr>
<tr>
<td></td>
<td>(0.009)</td>
<td>(0.000)</td>
<td>(0.006)</td>
<td>(0.000)</td>
</tr>
</tbody>
</table>

Obs.     1533       979         1423       886
No. Groups 295       221         290       216
No. Instruments N/A       86          N/A       84
Year Dummies Yes         Yes         Yes       Yes
Adjusted R\(^2\) 0.1647     N/A         0.0136     N/A
P > F-stat        0.0000     N/A         0.0151     N/A
Sargan Test      N/A         0.70        N/A       0.82
A-Bond AR(1)     N/A         -2.98**    N/A       -3.36**
A-Bond AR(2)     N/A         -0.42       N/A       0.24

All variables are defined in Table 4. DEBT is equal to total debt divided by market capitalisation plus total debt.

* and ** denotes significance at the five and one percent level, respectively.

Standard errors are calculated using the White heteroscedasticity robust standard error and are reported in parentheses for the fixed-effects panel. Standard errors are calculated using the HAS robust two-step standard errors and are reported in parentheses for the Dynamic System GMM. AR(1) and AR(2) are tests for the first- and second-order autocorrelations in the first-difference residuals under the null of no autocorrelation in the first- and second-order residuals, respectively. The ‘Sargan p-value’ provides the level of significance of a Sargan test for the validity of the instruments used in the model under the null that the instruments used are exogenous.
The Dynamic System GMM models are presented in column three and five. Like capital structure, the GMM extends the results in the fixed-effects panel to model an endogenously determined relationship between control and the level of dividends. The GMM models are well specified. The Sargan-test statistic is not significant indicating that the instruments are valid. The Arellano-Bond test statistic suggests that the absence of autocorrelation in levels. The behaviour of profitability (ROA) and firm size (SIZE) is similar to the fixed-effects model. Additionally, controlling for a potentially endogenous relationship between control by substantial holders and the level of dividends, the predicted effect of \%_OUT and HERF does not change with both measures of dividend policy.

5. CONCLUSION

This paper analyses the size and dispersion of a firm’s substantial holders and its effect on the level of debt and dividends paid by management. Using an Australian sample of substantial holdings from 2001 to 2009, it is reported that substantial holders have an economically meaningful effect on the level of dividends paid by management. The effect of substantial holders is in contrast to a hypothesised monitoring role that benefits all shareholders. In this case it would be expected that management is forced pay more dividends and reduce the retention of earnings that would otherwise be used to consume perquisites. It is reported that the total votes held by non-management substantial holders have a negative effect on dividends paid by management. Additionally, more dispersion in votes held by substantial holders has a negative effect on dividends paid by management. This is consistent with Konijn et al., (2011) where it is reported that greater ownership by blockholders is negatively associated with firm value. It is consistent with active private rent extraction by substantial holders (Shleifer and Vishny, 1997). The results in this paper are robust to a potentially endogenous relationship of control by substantial holders with dividend policy.

The reported effect of total votes held by substantial holders and their dispersion is dependent on the existence of private benefits being extracted by both management and non-management substantial holders. This is an important link that defines the relationship between substantial holders and the level of dividends paid by management. Further work would benefit from including in the analysis estimates of these private benefits that include compensation. Additionally, this study has considered substantial holders that are not officers or directors as a homogenous group of shareholders. Within this group there are financial institutions, corporations and individuals that have different incentives to monitor management or engage in private rent extraction (Demsetz 1986). A more detailed analysis of non-management substantial holders would further enhance this paper.
REFERENCES


